

QD2622B系列控制箱说明书V1.0.00

△安全指示

No. 10403177

- 1) 在安装或使用本产品前，使用者必须详细阅读本操作手册。
- 2) 本产品须由受过正确训练的人员来安装或操作。安装作业时必须关闭所有电源，切记不可带电操作。
- 3) 所有标有△符号的指示，必须特别注意并按照说明书上的执行，以免造成不必要的损害。
- 4) 为安全起见，禁止以延长线作电源座供应二项以上的电器产品使用。
- 5) 在连接电源线时，必须确定工作电压低于 AC 250V，且符合本产品标识中规定的额定电压值。
- ※注意：电控箱电源规格如为 AC220V 时，请勿插接至 AC380V 的电源插座上，否则将出现异常且电机无法动作。此时请立即关闭电源开关，重新检查电源。持续供应 380V 超过五分钟以上，将可能烧损电控箱内器件，而危及人身安全。
- 6) 请不要在日光直接照射的场所、室外及室温 45℃ 以上或 0℃ 以下的场所操作。
- 7) 请不要在暖气（电热器）旁、有露水的场所及在相对湿度 10%以下或 90%以上的场所操作。
- 8) 请不要在灰尘多的场所、具有腐蚀性物质的场所及有挥发性气体的场所操作。
- 9) 请注意所有电源线、信号线、接地线等接线时不要受压或过度扭曲，以确保使用安全。
- 10) 电源线的接地端须以适当大小的导线和接头连接到生产工厂的系统地线，此连接必须被永久固定。
- 11) 所有可转动的部分，必须以所提供的零件加以防范露出。
- 12) 在安装完成第一次开机后，先关闭切线功能以低速操作缝纫机并检查转动方向是否正确、运转是否稳定。
- 13) 在进行以下操作前，请先关闭所有电源：
1. 在控制箱与马达上插拔任何连接插头时。
 2. 穿针线时。
 3. 翻抬缝纫机机头时。
 4. 修理或做任何机械上的调整时。
 5. 机器闲置不用时。
- 14) 修理或高层次的保养工作，仅能由受过训练的机电技师来执行。
- 所有维修用的零件，须由本公司提供认可，方可使用。
- 15) 使用本产品请远离高频电磁波和电波发射器等，以免所产生的电磁波干扰伺服驱动装置而发生误动作。
- 16) 请不要以不适当物体来敲击或撞击本产品及各装置。

保修期限

本产品保修期限为购买日期起一年内或出厂月份起两年内。

保修内容

本产品在正常使用且无人为操作失误的前提下，于保修期间无偿为客户维修使能正常操作。

但以下情况于保修期间将收取维修费用：

1. 不当使用包括误接高压电源、将产品移做其它用途、自行拆卸、维修、更改、或不依规格范围使用、进水进油及插入异物于本产品。
2. 火灾、地震、闪电、风灾、水灾、盐蚀、潮湿、异常电压及其它天灾或不当场所造成的损害。
3. 客户购买后摔落本产品，或客户自行运输（或托付运输公司）造成的损害。

* 本产品在生产及测试上皆尽最大努力和严格控制使其达到高品质及高稳定的标准，但外部的电磁或静电干扰或不稳定的供应电源，仍可能对本产品造成影响或损害，因此操作场所的接地系统一定要确实做好，并建议用户安装故障安全防护装置（如漏电保护器）。

1. 操作面板按键功能说明

序号	图标	名称	功能说明
1		功能参数编辑键/参数查看保存键	1. 一般模式界面下，点击[P]键进入“用户参数设置”界面。 2. 按住[P]键开机进入“高级参数设置”界面。 3. 参数设置界面下，长按[P]键 3 秒保存参数值。 4. 参数设置界面下，点击[P]键返回主界面。
2		加键/加速键	增大参数/提高运行速度
3		减键/减速键	减小参数/降低运行速度
4		左键/LED+	查看上一项参数/增加 LED 灯亮度
5		右键/LED-	查看下一项参数/降低 LED 灯亮度
6		剪线键	点击此键实现：剪线关闭、前剪线开、后剪线开、前后剪线开的循环切换。 长按此键 3 秒进入剪线相关参数设置界面。
7		模式选择键	点击此键实现以下 4 个模式的循环切换： 1. 全自动：启动靠全感应信号完成。 2. 自由缝 3. 半自动：启动靠前感应信号+脚踏板完成（与 P-05 项同步）。 4. 全人工：启动靠脚踏板完成。 长按此键 3 秒进入模式相关参数设置界面。
8		拍压脚键	点击此键实现：自动拍压脚关闭、前抬、后抬、前后抬的循环切换（与 P-10 项同步）。 长按此键 3 秒进入压脚相关参数设置界面。
9		感应键	1. 短按此键查看传感器的实时感应值和当前阈值。 2. 长按此键进入传感器灵敏度调节界面。
10		一键恢复	用机针插入该孔长按开关 3 秒即可恢复出厂设置。
11		指示灯	①F-SENSOR ②M-SENSOR ③B-SENSOR

2. 特殊功能操作说明

序号	功能名称	功能说明
1	恢复出厂设置	1.同时按住左键和右键键开机，显示屏显示 P-26 项，按Ⓟ键确认即可恢复出厂设置。 2.RESET 一键恢复：用针插入 RESET 孔，长按 3 秒后恢复出厂设置。
2	上定位调整	第一步：按住 P 键开机，直接进入 P-70 项； 第二步：按右键找到 P-72 项； 第三步：手轮方向看，顺时针转动手轮转到上定位，长按 P 键 3 秒保存当前数值。
3	下定位调整	第一步：按住 P 键开机，直接进入 P-70 项； 第二步：按右键找到 P-73 项； 第三步：手轮方向看，顺时针转动手轮转到上定位，长按 P 键 3 秒保存当前数值。
4	传感器灵敏度调整	第一步：在一般模式界面下同时按加键和减键，可进入传感器灵敏度调试界面； 第二步：请将布移开传感器之后，按感应键； 第三步：请将布遮住传感器之后，按感应键；设置完成。（界面有提示）

3. 系统参数设置说明

3.1 横刀机型参数设置

用户参数（在一般模式下按[P]键进入）				
序号	项目名称	范围	默认值	参数说明
P-01	最高转速（转/分）	100-6000	5000	车缝时的最高转速
P-02	停针定位选择	0-1	0	0：上停针 1：下停针
P-03	起缝速度（转/分）	100-6000	4500	有剪线功能时：前传感器触发启动和后传感器信号结束时（剪线前）的速度设置 （全自动模式下有效）
P-04	启动模式	0-1	0	0：自动模式 1：脚控模式（前感应+脚踏板前踏启动） （P-06 开启时）
P-05	自动半自动模式	0-1	1	0：自动（配合 P-04 使用） 1：半自动（脚控模式）
P-06	自动感应开关	0-1	1	0：关闭（全人工模式开启）； 1：开启（实现自动/半自动模式，与 P-05 项匹配使用）
P-07	自动剪线开关	0-3	3	0：关闭 1：前剪（中间传感器接收到信号时剪线） 2：后剪（后传感器接收信号结束后剪线） 3：前后剪
P-08	自动吸气	0-3	3	0：关闭 1：前剪吸气 2：后剪吸气 3：前后剪吸气
P-09	自动拉布	0-1	0	0：关闭 1：开启

P-10	自动拍压脚	0-3	0	0：关闭 1：前抬（前传感器接收到信号时） 2：后抬（后传感器信号结束时） 3：前后抬
P-11	缝中拍压脚	0-1	0	（全人工/半自动模式下有效） 0：关闭 1：开启（停车时自动拍压脚）
P-12	剪线后抬压脚	0-1	1	0：关闭 1：开启
P-13	半反踏拍压脚	0-2	0	（全人工/半自动模式下有效） 0：半反踏&反踏抬 1：不抬 2：反踏抬
P-14	手动吸气	0-2	1	0：不吸 1：后吸 2：前后吸
P-15	机头灯亮度	0-4	3	0：熄灭 1→4 亮度等级，数字越大越亮
P-16	低气压模式	0-1	0	0：正常模式 1：低气压模式
P-17	半自动连续缝制	0-1	1	0：关闭 1：前踏连续缝
P-18	半自动恒速剪线	0-1	0	0：关闭（完成后剪线前不执行 P-03 项的速度） 1：恒剪线速度（前后剪线的速度固定为 P-03 项的速度）
P-20	剪线后停针位选择	0-1	1	0：下停针 1：上停针
P-22	前接收器 E#开关	0-1	1	0：开启（打开前传感器，传感器信号+脚踏板启动） 1：关闭（关闭前传感器，脚踏板直接启动）
P-23	间歇吸气吸时间（×100 毫秒）	1-600	20	数字越大时间越长
P-24	间歇吸气停时间（×100 毫秒）	0-600	0	0：为无间歇吸气前吸气关闭时间（P-46 项设置为“1”时配合使用有效）
P-25	吸风同步（P16-1）（毫秒）	0-2000	200	布边吸风同步时间（P-16 设置为“1”时配合使用有效）
技术员参数(按住[P]键开机进入)				
P-26	两传感器间针数（针）	1-600	100	循环周期参数：在一个周期内后传感器接收到信号后才能连续运行，否则一个周期停止
P-27	前剪线延迟针数(针)	0-50	4	数值越小越提前，线头预留越长（中传感器触发）
P-28	后剪线延迟针数(针)	0-50	0	数值越小越提前，结尾线头越短（后传感器触发）
P-30	前吸气关闭延时（毫秒）	100-5000	100	数值越小，关闭越快
P-31	后吸气关闭延时（毫秒）	100-5000	200	数值越小，关闭越快
P-32	拖布轮开启时机	0-50	20	
P-34	全人工剪线保护	0-1	1	0：关闭 1：开启

P-35	停车延迟针数(针)	1-99	2	布过完传感器后几针自动停车(后剪线关闭状态有效)
P-36	前传感器响应时间（毫秒）	10-990	45	前传感器触发时间 （数值越小反应越快，数值越大反应越慢）
P-37	前传感器灵敏度	0-700	380	为适应不同布料设定前传感器的透布强度
P-38	中间传感器灵敏度	0-700	440	为适应不同布料设定中传感器的透布强度 （全自动/半自动模式下）
P-39	前抬压脚保持时间（毫秒）	100-2000	50	前触发自动抬压脚后保持时间,数值越大保持时间越长
P-40	后抬压脚启动时间（毫秒）	0-2000	20	后自动抬压脚启动时间,数值越小反应越快
P-41	压脚全始出力时间（毫秒）	10-990	50	数值越大压脚抬的越高（注：不能太高）
P-42	压脚出力周期信号(%)	10-90	10	压脚动作时，以周期性省电输出，避免电磁铁发烫
P-43	压脚下放时间（毫秒）	10-990	100	压脚下放时序的动作时间
P-44	压脚保护时间（秒）	1-120	5	中途停车抬压脚、剪线后停车自动抬压脚、反踏抬压脚后保持时间到后强制关闭
P-45	剪线时间（毫秒）	10-990	40	时间越长，剪线力度越大
P-46	连续送布吸气	0-2	0	0：不吸气 1：长吸气 2：同步吸气
P-48	开机找上定位	0-1	1	0：关闭 1：开启
P-49	针迹（毫米）	1-7	3	使用上下键调整到与实际针距相符
P-50	上定位调整	0-24	4	与 P-72 项设置同步
P-51	下定位调整	0-24	14	与 P-73 项设置同步
P-52	测试速度(转/分)	100-6000	5500	使用上下键调整
P-53	测试工作时间（×100 毫秒）	1-250	50	使用上下键调整
P-54	测试停止时间（×100 毫秒）	1-250	20	使用上下键调整
P-55	测试 A：持续运行	0-1	0	0：停止 1：运行
P-56	测试 B：空功能运行	0-1	0	0：停止 1：运行
P-57	测试 C：启停运行	0-1	0	0：停止 1：运行
P-58	缝台保护开关	0-1	1	0：停用 1：启用
P-59	压脚保护开关	0-1	1	0：停用 1：启用
P-60	电动/气动	0-1	0	0：电动 1：气动
P-61	后踏剪线开关	0-7	0	0：全关 1：全人工开 2：半自动开 3：全自动开 4：全人工和半自动开 5：半自动全自动开 6：全人工全自动开 7：全人工半自动全

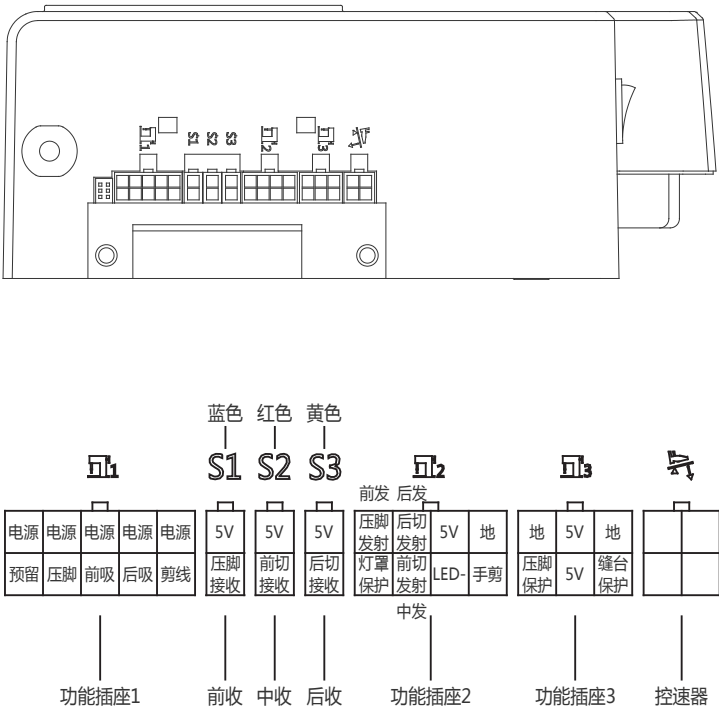
P-62	电机转动方向	0-1	0	从手轮方向看： 0：正转(顺时针) 1：反转（逆时针）
P-63	语言	0-1	1	0：英文 1：中文
P-64	前发射管强度	0%-100%	80%	调节前发射管强度
P-65	中发射管强度	0%-100%	80%	调节中发射管强度
P-66	后发射管强度	0%-100%	80%	调节后发射管强度
P-67	后传感器灵敏	0-700	440	为适应不同布料设定后传感器的透布强度
P-69	后感应缓响应时间（毫秒）	0-3000	0	在缝制网格布的情况下可以调节此项，以达到想要的效果。
P-70	机型选择	0-1	0	0：横刀机型 1：侧刀机型
P-71	最高转速限制（转/分）	100-6500	6000	最高转速限制
P-72	手动上定位调整	0-24		从手轮方向看，顺时针转动手轮转到上定位， 长按 P 键 3 秒保存当前数值。
P-73	手动下定位调整	0-24		从手轮方向看，顺时针转动手轮转到下定位， 长按 P 键 3 秒保存当前数值。
P-74	参数查看	N1-N4		N1：电控软件版本 N2：面板软件版本 N3：转速 N4：脚踏板 AD
P-76	密码		0000	
P-78	吸风桶类型	0-2	1	0：有刷 1：无刷 2：气阀
P-80	灯罩保护开关	0-1	1	0：停用 1：启用

4. 错误代码表

错误码	内容	对策
E01	超电压	关闭系统电源，检测供应电源电压是否正确。（或是否超过使用规定的额定电压）。 若正确，请更换控制箱并通知售后服务。
E02	低电压	关闭系统电源，检测供应电源电压是否正确。（或是否低于使用规定的额定电压）。 若正确，请更换控制箱并通知售后服务。
E05	控速器接触异常	关闭系统电源，检查控速器接头是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换控速器并通知售后服务。
E07	电机堵转	转动机头手轮观察是否卡住。如卡住则先排除机械故障。 如转动正常，检查电机编码器接头和电机电源线接头是否松动。如有松动请修正。 如接触良好，检查供应电源电压是否异常或转速设置过高。如有请调整。 若仍不能正常工作，请更换控制箱并通知售后服务。
E10	电磁铁过流保护	关闭系统电源，检查电磁铁（电磁阀）连接线或电磁铁（电磁阀）是否损坏。
E11	定位信号异常	关闭系统电源，检查电机编码器接口是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换电机并通知售后服务。
E14	编码器信号异常	关闭系统电源，检查电机编码器接口是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换电机并通知售后服务。
E15	电力模块不正常过流保护	关闭系统电源，再重新开启。若仍不能正常工作，请更换控制箱并通知售后服务。
E16	抬压脚保护开关没到正确位置	检查压脚是否回到正确位置，抬压脚开关是否损坏，插座是否异常。
E17	缝台保护开关没到正确位置	检查缝台是否打开，缝台安全开关是否损坏，插座是否异常。
NC	前面操作盒与 CPU 传输通信异常	关闭系统电源，检查控制面板的连线是否松动或脱落，将其恢复正常后重启系统。若仍不能正常工作，请更换控制箱并通知售后服务。

5. 端口示意图

5.1 电动款机型端口



⚠Safety Instruction

- 1) Users are required to read the operation manual completely and carefully before installation or operation.
- 2) The product should be installed and pre-operated by well trained persons.
- 3) All the instruction marked with sign ⚠, must be observed or executed; otherwise, bodily injuries might occur.
- 4) For perfect operation and safety, it is prohibited that using extension cable with multi-outlet for power connection
- 5) When connecting power supply cords to power sources, it is necessary to make sure that the power voltage is lower than 250V AC and matches the rated voltage indicated on the motor's name plate.
- ※Attention: If the Control Box is AC 220V system, please don't connect the Control Box to AC 380V power outlet. Otherwise, the error will occur and motor will not work. If that happens, please turn off the power immediately and check the power voltage. Continue supply 380V power over 5 minutes might damage the fuse F2, burst the electrolytic capacitors and the power module U14 of the main board and even might endanger the person safety.
- 6) Please don't operate in direct sun light, outdoors area and where the room temperature is over 45℃or below 0℃.
- 7) Please avoid operating near the heater at dew area or at the humidity below 10% or above 90%.
- 8) Please don't operate in area with heavy dust, corrosive substance or volatile gas.
- 9) Avoid power cord being applied by heavy objects or excessive force, or over bend.
- 10) The earth wire of power cord must be connected to the system ground of the production plant by proper size of conductions and terminals. This connection should be fixed permanently.
- 11) All the moving portions must be prevented to be exposed by the parts provided.
- 12) Turning on the machine in the first time, operate the sewing machine at low speed and check the correct rotation direction.
- 13) Turn off the power before the following operation:
1. Connecting or disconnecting any connectors on the control box or motor.
 2. Threading needle.
 3. Raising the machine arm.
 4. Repairing or doing any mechanical adjustment.
 5. Machine is out of work.
- 14) Repairing and high level maintenance work should only be done by electronic technicians with appropriate training.
- 15) All the spare parts for repairing work must be provided or approved by the manufacturer.
- 16) Don't use any objects to hit or ram the product.

Guarantee Time
Warranty period of this product is 1 year dated from purchasing, or within 2 years from ex-factory date.

Warranty Detail
Any trouble found within warranty period under normal operation, it will be repaired free of charge.

However, maintenance cost will be charged in the following cases even if within warranty period:

1. Inappropriate use, including: wrong connecting high voltage, wrong application, disassemble, repair, modification by incompetent personnel, or operation without the precaution, or operation out of its specification range, or inserting other objects or liquids into the product.
2. Damage by fire, Earth quake, lighting, wind, flood, salt corrosive, moisture, abnormal power voltage and any other damage cause by the natural disaster or by the inappropriate environments.
3. Dropping after purchasing or damage in transportation by customer himself or by customer's shipping agency.

Note: We make our best effort to test and manufacture the product for assuring the quality. However, it is possible that this product can be damaged due to external magnetic interference and electronic static or noise or unstable power source more than expected; therefore the grounding system of operate area must guarantee the good earth and it's also recommended to install a failsafe device. (Such as residual current breaker)

1. Operation Panel for each key name and function definition

No.	Icon	Description	Remarks
1		Function key	1. In the normal mode hold [P] key enter to User parameter setting mode. 2. In the shut-off condition, hold [P] key turn on machine enter to technician parameter setting mode. 3. In the shut-off condition, Hold [P] key and [S] key turn on the machine enter to the senior parameter setting mode. 4. Under the parameter setting interface, Press [P] key to return but not save the parameter.
2		Parameter Increase/Speed Increase	Increase the parameter / Increase the sewing speed
3		Parameter Decrease/Speed decrease	Decrease the parameter / Decrease the sewing speed
4		Left key/LED+	Parameter item and parameter contents decrease / Increase LED brightness
5		Right key/LED-	Parameter item and parameter contents increase / Decrease LED brightness
6		Thread trimming	Press left and right key it can execute the cycle shift of forward trimming ON, forward trimming OFF, backward trimming ON, backward trimming OFF. Long-press 3 sec to enter to trimming setting.
7		Mode selection shortcut key	Press this key can execute the cycle shift of the following four modes: Long-press 3 sec to enter to mode selection setting. 1. Full automatic: start-up according full sensor signal. 2. Free sewing. 3. Semi- automatic: start-up according to front sensor signal + pedal completion (same as P-05). 4. Full manual: start-up according to the pedal completion.

8		Presser foot lifting mode shortcut key	Press this key it can execute the cycle shift of Front foot lifting, Rear foot lifting, front and rear foot lifting, close, valid after setting press S key to save (same as P-10). Long-press 3 sec to enter to presser foot lifting mode setting.
9		Sensor situation check shortcut Key	1. Short-press this key can check sensor sensitivity real value of front sensor, mid-sensor, back-sensor. 2. Long-press this key can enter sensor sensitivity setting interface, please according to the display interface operation.
10		Reset	Use needle insert hole, after long-press 3 sec after beep then restore factory setting.
11	Indicator	①F-SENSOR ②M-SENSOR ③B-SENSOR	1. When the front sensor receive with cloth, the F-SENSOR LED will be lighted; without cloth the LED OFF. 2. When the Mid-sensor receive with cloth, the M-sensor LED will be lighted; without cloth the LED OFF. 3. When the back sensor receive with cloth, the B-SENSOR receive with cloth, the B-SENSOR LED will be lighted; without cloth the LED OFF.

2. Special function operation definition

No.	Function name	Function Description
1	Restore factory setting	1. Under the shutdown state, press ⏮ and ⏭ two key at the same time to turn on machine,display screen show P-26, press [S] key confirm. 2. Shortcut Mode : Use needle insert RESET hole, after long-press 3 sec after beep then restore factory setting.
2	UP position adjustment by manual	1. Under the shutdown state, press [P] +[S] key at the same time to turn on machine, display P-70; 2. Adjust parameter P-72; 3. From hand-wheel direction, clockwise turn hand-wheel to up position, press [S] key to save current value.
3	Down position adjustment	1. Under the shutdown state, press [P] +[S] key at the same time to turn on machine, display P-70; 2. Adjust parameter P-73; 3. From hand-wheel direction, clockwise turn hand-wheel to down position, press [S] key to save current value.
4	Sensor sensitivity adjustment	1. Under the normal mode interface long-press key, it can direct access sensor sensitivity adjustment interface: 2. Please remove cloth after Three-sensor, press [S] key; 3. Please cover cloth after three-sensor, press [S] key, finished setting.

3 System Parameter Setting Definition

3.1 Electric /air-powered machine type parameter setting

User Parameter (Under the normal mode press P key to access)				
No.	Function parameters	Range	Default	Description
P-01	Maximum Sewing Speed (r/min)	100-6000	5000	Maximum sewing speed setting

P-02	Needle stop positioning selection	0-1	0	0: Up needle position 1: Down Needle position
P-03	Start sewing speed (r/min)	100-6000	4500	With trimming function: the speed setting for front sensor trigger start-up and Back sensor signal finish (before trimming)
P-04	Start-up mode	0-1	0	(Valid for full-automatic mode) 0: Automatic mode (start-up) 1: Foot control mode (Start-up by Front sensor + toe down the pedal)
P-05	Automatic/semi-automatic mode selection	0-1	1	(P-06 is turn on) 0: Semi-automatic 1: Automatic)
P-06	Auto sensing switch	0-1	1	0: OFF (Full manual mode is turn on) 1: ON (It can execute automatic/ semi-automatic mode also match with P-05 use)
P-07	Automatic thread tension release switch	0-3	3	0: OFF 1: Backward thread tension release
P-08	Auto suction	0-3	3	0: OFF 1: Front trimming suction 2: Rear trimming suction 3: Front and rear trimming suction
P-09	Automatic cloth feeding	0-1	0	0: OFF 1: ON
P-10	Auto presser foot lifting	0-3	0	0: OFF 1: Front foot-lifting (Front sensor receive signal) 2: Rear foot-lifting (Rear sensor signal after finish) 3: Front and Rear foot-lifting
P-11	Presser foot lifting when stop on the sewing	0-1	0	(Valid for full-manual and semi-automatic mode) 0: OFF 1: ON (when stop on the sewing the presser foot lifting automatically)
P-12	Presser foot lifting after trimming	0-1	1	0: OFF 1: ON
P-13	Presser foot lifting when half back treadle	0-2	0	(Valid for full-manual / semi-automatic mode) 0: Presser foot lifting when half back step/ back step 1: Lay down 2: Reverse step up presser foot
P-14	Manual trimming suction	0-2	1	0: No suction 1: Rear suction 2: Front suction and rear suction
P-15	Machine head lamp brightness	0-4	3	0: OFF; 1→4 the brightness grade, the more value the more brightness.
P-16	Low air pressure mode	0-1	0	0: Normal mode 1: Low pressure mode
P-17	Semi automatic continuous sewing	0-1	1	1: OFF 0: Continuous sewing when toe down the treadle
P-18	Semi automatic constant	0-1	0	0: OFF (after finish before trimming not execute P-03 speed)
P-20	Stop position after trimming selection	0-1	1	0: Down position 1: Up position
P-22	Front Receiver E# switch	0-1	1	0: ON (turn on the front sensor, sensor signal + pedal) 1: OFF (Close front sensor, pedal direct turn on)
P-23	Intermittent suction opening time (×100ms)	1-600	20	The more value the more time

P-24	Intermittent air suction off time (×100ms)	0-600	0	0: for no intermittent air suction Front suction off time (valid when P-46 function setting is 1)
P-25	Low pressure mode, selvage suction synchronization time (P16=1)	0-2000	200	Valid for P-16 setting is 1
Technician parameter (Press [P] key and power on to enter)				
P-26	The stitches number between two sensors	1-600	100	Cycle period parameter. In a circle the rear sensor receive signal then can continue running, otherwise a cycle stop.
P-27	The delayed stitches number of front trimming	0-50	4	the smaller value the more in advance, thread will retain more longer. (Mid-sensor trigger)
P-28	The delayed stitches number of rear trimming	0-50	0	The small value the more in advance, the short of end-thread (Back-sensor trigger)
P-30	The delayed time of front suction off (ms)	100-5000	100	The small value the close is fast.
P-31	The delayed time after trimming suction. (ms)	100-5000	200	The small value the close is fast.
P-32	The times when cloth-pulling ON	0-50	20	
P-34	Trimming protection by manually	0-1	1	0:OFF 1:ON
P-35	The delayed stitches number before the machine stops (Stitches)	1-99	2	After through cloth back-sensor how many stitches will stop the machine automatically. (Valid for Back-sensor OFF condition)
P-36	The response time of front sensor (ms)	10-990	45	Front sensor trigger time: the small value the response is fast, the large value the response is slow.
P-37	The sensitivity of front sensor	0-700	380	In order to adapt different cloth material setting front sensor receive strength.
P-38	The sensitivity of middle sensor	0-700	440	In order to adapt different cloth material setting mid-sensor receive strength.
P-39	The delaying time of front presser foot lifter (ms)	100-2000	50	Under the full automatic/ semi-automatic: Front trigger retention time after auto-foot-lifting, the larger value the longer retention time.
P-40	Starting time for rear presser foot lifter (ms)	0-2000	20	The starting time of rear presser foot lifting, the smaller value the faster of response.
P-41	Full-on time setting for presser foot (ms)	10-990	50	The larger value the higher of foot-lifting (Noted: Not too high)
P-42	Duty-cycle time setting for presser foot (%)	10-90	10	Adjustment for duty-cycle of AFL. Fine tuning can reduce the over- heating.
P-43	The time for the presser foot laying down (ms)	10-990	100	The action time of presser foot laying down sequence.
P-44	Presser foot protection (s)	1-120	5	Stop on the sewing the presser foot lifting, stop after trimming presser foot lifting, positive closing after heeling pedal for
P-45	times (ms)	10-990	40	
P-46	Suction when continuous feeding	0-2	0	0: No suction 1: Long suction 2: Synchronizer suction
P-48	Needle goes up as power on	0-1	1	0: OFF 1: ON
P-49	Stitch (mm)	1-7	3	Adjustment same as actual needle distance by up and down key.

P-50	Up needle position adjustment	0-24	4	Same as P-72
P-51	Down needle position adjustment	0-24	14	Same as P-73
P-52	Test speed (r/min)	100-6000	5500	Adjustment by up and down key
P-53	Test working time (×100ms)	1-250	50	Adjustment by up and down key
P-54	Test stop time (×100ms)	1-250	20	Adjustment by up and down key
P-55	Item A testing: Continuous running	0-1	0	0: STOP 1: RUN
P-56	Item B testing: With function running	0-1	0	0: STOP 1: RUN
P-57	Item C testing: Without function running	0-1	0	0: STOP 1: RUN
P-58	Machine plate protection switch	0-1	1	0: OFF 1: ON
P-59	Presser foot protection switch	0-1	1	0: OFF 1: ON
P-60	Electric /Air-powered	0-1	0	0: Electric 1: Air-powered
P-61	Trimming switch by heeling pedal	0-7	0	0: All OFF 1: All ON by manually 2: Semi-auto ON 3: Auto ON 4: Manual and semi-auto ON 5: Semi-auto and auto ON 6: Manual and auto ON 7: Manual and semi-auto and auto ON
P-62	Rotate direction	0-1	0	Through Hand-wheel direction: 0: Corotation (Clockwise) 1: Reversal (Counter clockwise)
P-63	Language	0-1	1	0: English 1: Chinese
P-64	The strength of front sensor	0%-100%	80%	Adjustment front sensor strength
P-65	The strength of mid-sensor	0%-100%	80%	Adjustment mid-sensor strength
P-66	The strength of back sensor	0%-100%	80%	Adjustment back sensor strength
P-67	The sensitivity of back sensor	0-700	440	In order to adapt different cloth material setting back-sensor receive strength.
P-69	Response time of back sensor (ms)	0-3000	0	Response time of back-sensor, when sewing such as mesh cloth can adjust this item, then can achieve you want effects.
P-70	Model selection	0-1	0	0: Horizontal knife type 1: Side knife type
P-71	Maximum sewing speed limitation (r/min)	100-6500	6000	Maximum sewing speed limitation
P-72	Manually up positioning adjustment	0-24		Through hand-wheel direction, clockwise turn hand-wheel to up position press S to save the current value.
P-73	Manually down positioning adjustment	0-24		Through hand-wheel direction, clockwise turn hand-wheel to down position then press S to save current value.
P-74	Parameter reference	N1-N4		Use up and down key shift: N1: Control box software version N2: Panel software version N3: Rotation N4: Pedal AD

P-76	Code		0000	
P-78	Suction bucket type	0-2	1	0: with brush 1: without brush 2: valve
P-80	Lamp shade protection	0-1	1	0:OFF 1:ON

4. Error Code List

Error Code	Problem description	Measure
E1	Over-voltage	Turn off the machine, check the power supply voltage.(Or whether exceed the rated voltage of use). If there are still errors, please replace the control box and call for customer service.
E2	Low-voltage	Turn off the machine, check the power supply voltage.(Or whether under the rated voltage of use). If there are still errors, please replace the control box and call for customer service.
E5	Pedal connection error	Turn off the machine, please check if the pedal in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E7	Motor locked-rotor error	Turn the machine handwheel, check if it is stuck. If it is stuck, you have to rule out the mechanical failure. If turn normal ,check if the encoder and motor in bad connection or is too loose. If yes, please correct. If connection well, check if the power supply voltage is abnormal or sewing speed is too high. If yes, please adjust. If there are still errors, please replace the control box and call for customer service.
E10	Solenoid over-current	Turn off the machine, please check the related circuit is shorted or damaged.
E11	Positioning signal error	Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on. If there are still errors, please replace the control box and call for customer service.
E14	Encoder error	Turn off the machine, please check if the encoder in bad connection or is too loose. To get it right and turn on.If there are still errors, please replace the control box and call for customer service.
E15	Power supply module abnormal over-current	Turn off the machine, then turn on again. If there are still errors, please replace the control box and call for customer service.
E16	Foot pressure safety switch is not in the correct position	Please check presser foot whether to return to correct position, the presser foot switch is damage or not, or socket is abnormal.
E17	Machine protection switch is not in the correct position	Turn off the machine, check if the machine is turn over, or the Mercury Switch is shifted or damaged.
NC	Front operation panel linked to CPU interface had communication error	Please check the operation box and its connection.

5. Rear panel connector port outline diagram

5.1 Electric machine type port

